THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 13

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte STEPHEN J. BRIGGS

Appeal No. 1998-0463
Application 08/450,849

ON BRIEF

Before COHEN, BARRETT, and NASE Administrative Patent Judges.

COHEN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1 through 23, all of the claims in the application.

Appellant's invention pertains to a device for detecting harmonics in a current carrying conductor, and to a process for detecting the presence of harmonics in a current carrying

conductor. An understanding of the invention can be derived from a reading of exemplary claims 1, 18, 20, and 22, respective copies of which are appended to the brief filed July 31, 1997 (Paper No. 11).

As evidence of obviousness, the examiner has applied the documents listed below:

Lowenstein et al (Lowenstein '114)	5,170,114	Dec. 8, 1992
Lowenstein et al (Lowenstein '164)	5,365,164	Nov. 15, 1994

The following rejection is before us for review.

Claims 1 through 23 stand rejected under 35 U.S.C. § 103 as being unpatentable over Lowenstein '164 in view of Lowenstein '114.

The full text of the examiner's rejection and response to the argument presented by appellant appears in Paper Nos. 2

and 4, while the complete statement of appellant's argument can be found in the brief (Paper No. 11).

In the brief (page 3), appellant groups claims 1 through 21 together and groups claims 22 and 23 with each other. However, the arguments advanced in the brief appear to address matters relating to the content of each of the independent claims on appeal. Therefore, to fairly address the claimed subject matter on appeal, we shall focus our attention, infra, upon independent claims 1, 18, 20, and 22, with the dependent claims respectively standing or falling therewith.

OPINION

In reaching our conclusion on the obviousness issue[1] raised in this appeal, this panel of the board has carefully considered appellant's specification and independent claims 1,

[1] The test for obviousness is what the combined teachings of references would have suggested to one of ordinary skill in the art. See In re Young, 927 F.2d 588, 591, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991) and In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981).

18, 20, and 22, the applied patents,[2] and the respective viewpoints of appellant and the examiner. As a consequence of our review, we make the determinations which follow.

Claim 1

We reverse the rejection of claim 1. It follows that the rejection of dependent claims 2 through 17, which stand or fall with claim 1, is likewise reversed.

An argued feature of the claim 1 device is the "automatically turning on or off" of a circuit connected to a current probe. The examiner concludes (page 3 of Paper No. 4)

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[2] In our evaluation of the applied references, we have considered all of the disclosure of each document for what it would have fairly taught one of ordinary skill in the art. See In re Boe, 355 F.2d 961, 965, 148 USPQ 507, 510 (CCPA 1966). Additionally, this panel of the board has taken into account not only the specific teachings, but also the inferences which one skilled in the art would reasonably have been expected to draw from the disclosure. See In re Preda, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968).

that it would be notoriously obvious to automate an on/off operation, and additionally asserts that "[i]n fact, many electrical devices present such feature in the electrical measuring arts." Appellant challenges the examiner on this matter and points out (brief, page 4) that neither of the applied references illustrate or suggest an automatic on/off feature for an electrical measuring device. Like appellant, it is apparent to us that the applied evidence is clearly lacking relative to the expressly set forth limitation in claim 1 of the automatic on/off feature. Since the evidence of obviousness before us is clearly deficient, as explained above, the rejection of claim 1 under 35 U.S.C. § 103 must be reversed.

Claim 18

We affirm the rejection of claim 18. It follows that the rejection of dependent claim 19, which stands or falls with claim 18, is likewise affirmed.

The device of claim 18 comprises, inter alia, first and

second resistors providing an automatic gain control portion.

In our opinion, the subject matter of claim 18 would have been obvious to one having ordinary skill in the art, from a collective assessment of the applied Lowenstein teachings. More specifically, as we see it, one having ordinary skill in the art would have been motivated by the explicit teaching of the auto-gain feature of Lowenstein '114 (column 6, lines 41 through 55) to select an appropriate auto-gain circuit from among known and available auto-gain circuits for their expected advantages, e.g. an auto-gain circuit having first and second resistors. It is our understanding that the latter circuit would have been available to those having ordinary skill in the art at the time of the present invention, particularly based upon the acknowledgment in appellant's specification (page 4) that the invention is completely based on commercial off-the-shelf components. It is for the above reasons that we affirm the rejection of claim 18.

Claim 20

We affirm the rejection of claim 20. It follows that the rejection of dependent claim 21, which stands or falls with claim 20, is likewise affirmed.

The device of claim 20 requires, inter alia, a display including a plurality of LEDs arranged in columns, with each LED in each column indicating the degree of severity of the harmonic of interest.

In our opinion, the combined teachings of the Lowenstein documents would have been suggestive of the aforementioned LED feature of claim 20 since Lowenstein '114, in particular, addresses the alternative of a plurality of LEDs corresponding to the number of steps in a display scale (multi-step light bar) 14, and expressly indicates that the display scale can include “multiple light bars corresponding to the number of harmonics measured.” For the above reason, we determine that claim 20 is unpatentable under 35 U.S.C. § 103.

Claim 22

We affirm the rejection of claim 22. It follows that the rejection of dependent claim 23, which stands or falls with claim 22, is likewise affirmed.

Claim 22 is drawn to a process for detecting the presence of harmonics in a current carrying conductor comprising the steps of, inter alia, sensing the presence of current in the conductor, calculating the Fourier coefficients of the harmonics of interest, comparing the Fourier coefficients to a set of preset values, and providing an indication of the severity of the harmonics based upon the above comparing step.

From our perspective, the process of claim 22 would have been obvious to one having ordinary skill in the art based upon the collective teachings of the Lowenstein references. Clearly, Lowenstein '164 (column 3, lines 13 through 24) would have been suggestive of the Fourier steps now claimed, while Lowenstein '114 (column 7, lines 37 through 51) would have motivated one having ordinary skill in the art to provide an indication of the severity of a number of harmonics, as claimed.

The arguments advanced by appellant do not convince us that the content of claims 18, 20, and 22 is patentable. While appellant argues that the claims at issue measure "only current," the argument is clearly not commensurate with the scope of the claims before us. Specifically, claims 18, 20, and 22, drafted in "comprising" format, simply do not preclude the inclusion of a voltage probe. As to appellant's commentary regarding the display of one harmonic in the Lowenstein '114 document (brief, page 5), we noted above that this same reference would have been suggestive of the display of plural LEDs and multiple harmonics.

The argument is also made (brief, page 5) that neither of the applied references incorporate two levels of autoranging; one based upon resistor switching, and the other on the use of a "transconductance amp as a voltage controlled amplifier (VCA)." However, these particular two levels are not found in the claims.

As to appellant's discussion of the display of computed RMS values in Lowenstein '164 (brief, page 6), we simply point out that claims 18, 20, and 22 do not preclude RMS values for the measured current.

In summary, this panel of the board has reversed the rejection of claims 1 through 17 under 35 U.S.C. § 103 as being unpatentable over Lowenstein '164 in view of Lowenstein '114, but has affirmed the rejection of claims 18 through 23 on this same ground.

The decision of the examiner is affirmed-in-part.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

IRWIN CHARLES COHEN Administrative Patent Judge	)	
LEE E. BARRETT Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
JEFFREY V. NASE Administrative Patent Judge	)	

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